

CLAIMS

1. An elliptically polarizing plate comprising a polarizer, a protective layer formed on one side of the polarizer, a first birefringent layer serving as a $\lambda/2$ plate, and a second birefringent layer serving as a $\lambda/4$ plate in the stated order, wherein:

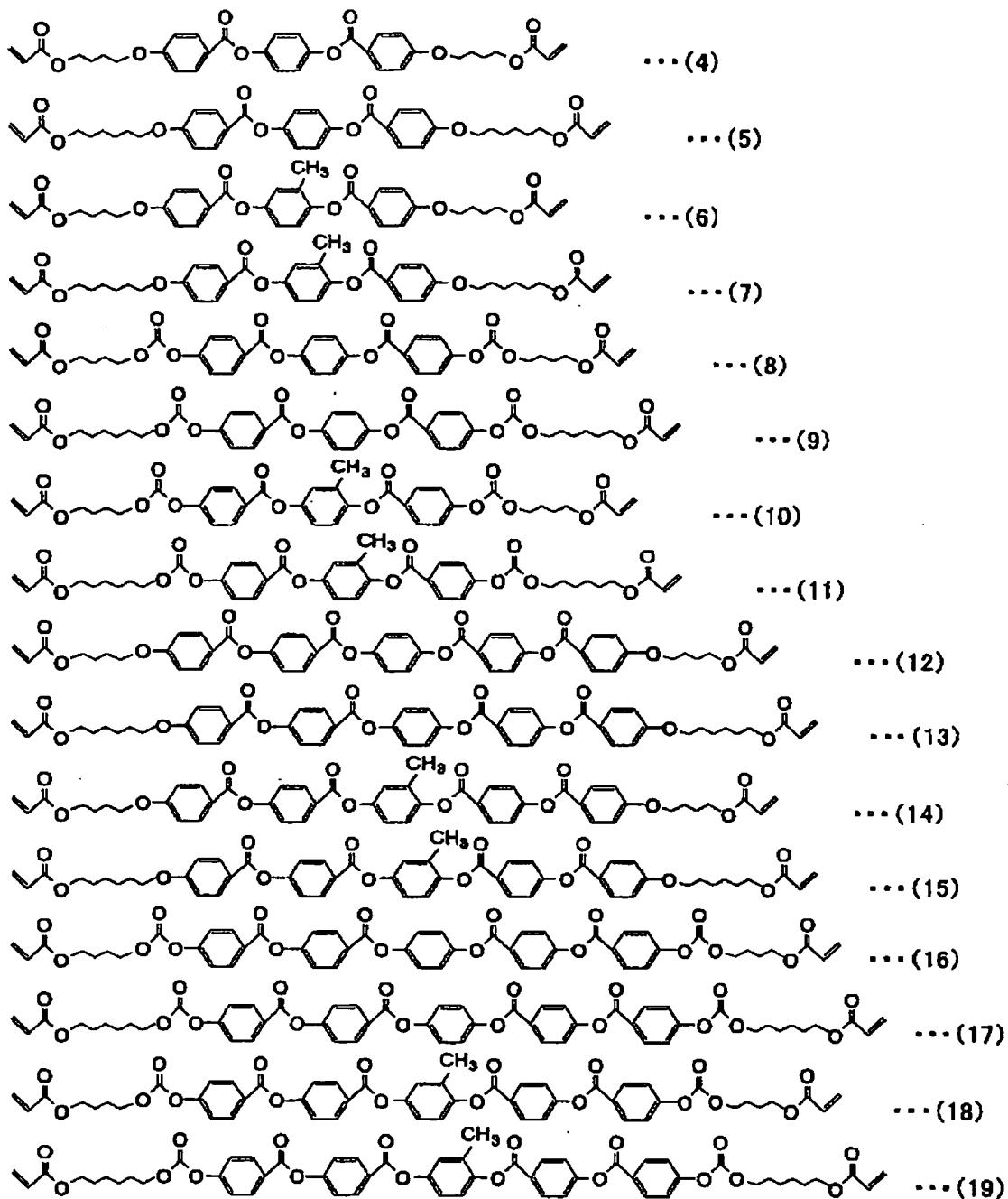
an absorption axis of the polarizer and a slow axis of the first birefringent layer form an angle α of one of 10° to 20° and -10° to -20° ; and

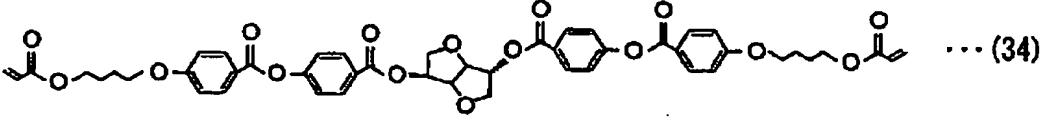
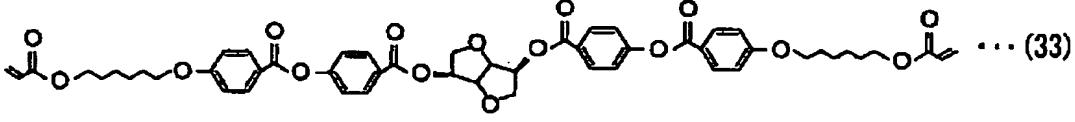
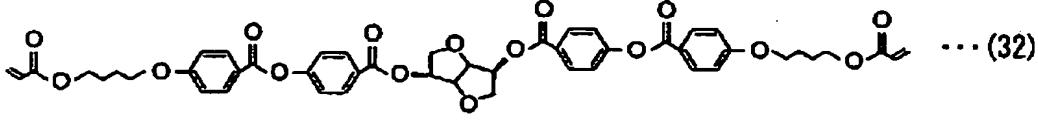
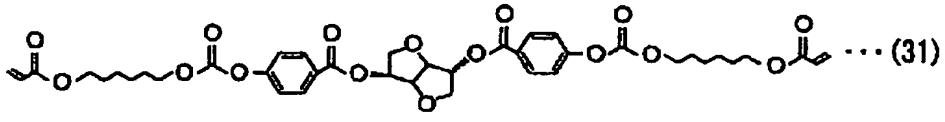
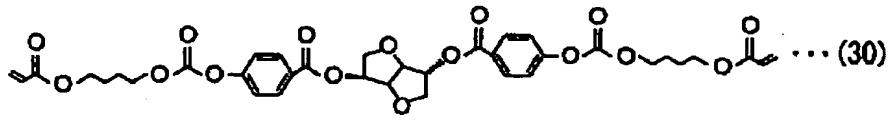
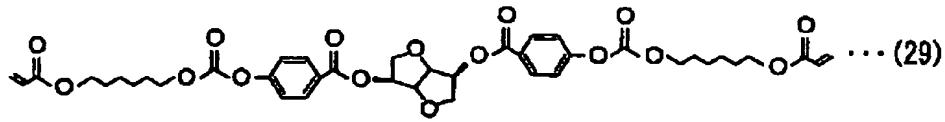
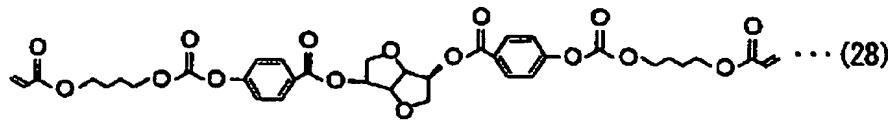
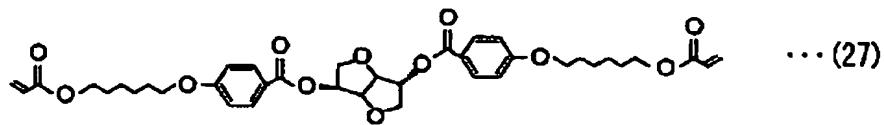
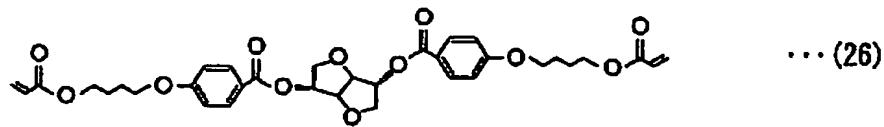
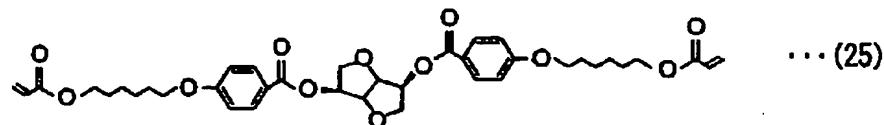
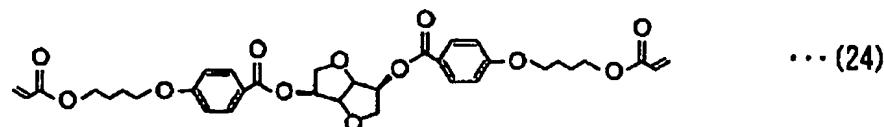
the absorption axis of the polarizer and a slow axis of the second birefringent layer form an angle β of one of 65° to 85° and 5° to 25° .

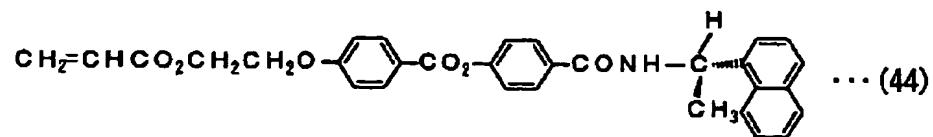
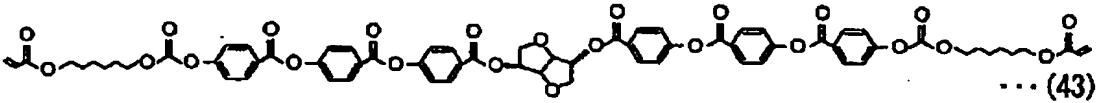
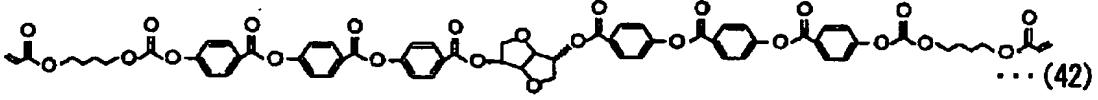
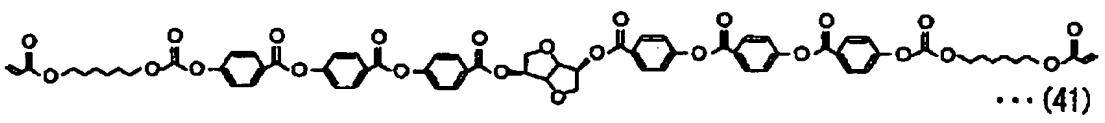
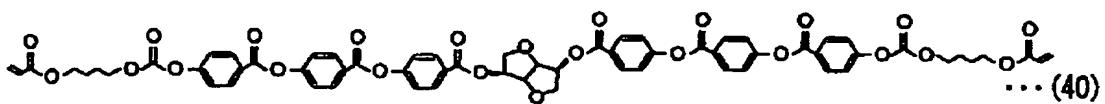
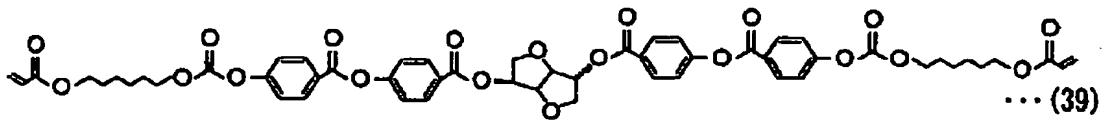
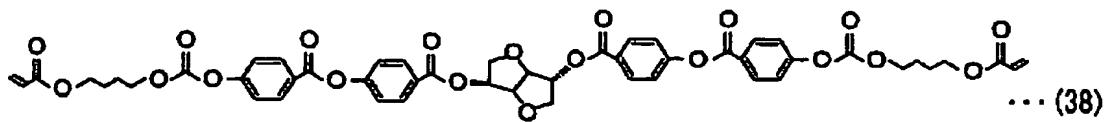
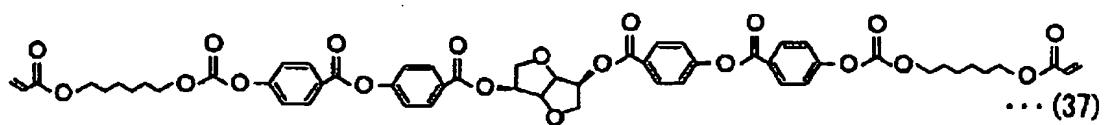
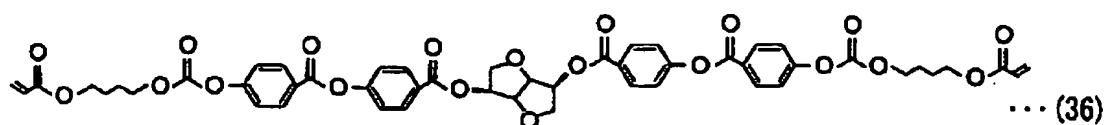
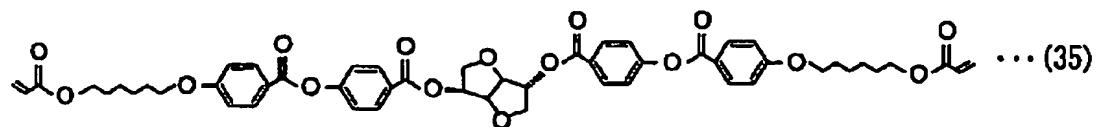
2. An elliptically polarizing plate according to claim 1, wherein: the first birefringent layer is formed by using a liquid crystal material; and the second birefringent layer is formed by using a liquid crystal composition containing a liquid crystal material and a chiral agent.

3. An elliptically polarizing plate according to claim 1 or 2, wherein: the liquid crystal material used for forming the second birefringent layer comprises at least one of compounds represented by the following formulae (4) to (19); and the chiral agent comprises at least one of compounds represented by the following formulae

(24) to (44).







4. An elliptically polarizing plate according to claim 3, wherein: the liquid crystal material used for forming the second birefringent layer comprises a compound represented by the formula (10); and the chiral agent comprises a compound represented by the formula (32).

5. An elliptically polarizing plate according to any one of claims 1 to 4, wherein the first birefringent layer has a thickness of 0.5 to 5 μm .

6. An elliptically polarizing plate according to any one of claims 1 to 5, wherein the second birefringent layer has a thickness of 0.3 to 3 μm .

7. A method of producing an elliptically polarizing plate comprising the steps of:

subjecting a surface of a transparent protective film (T) to alignment treatment;

forming a first birefringent layer on the surface of the transparent protective film (T) subjected to the alignment treatment;

laminating a polarizer on a surface of the transparent protective film (T); and

laminating a second birefringent layer on a surface of the first birefringent layer,

wherein the polarizer and the first birefringent layer are arranged on opposite sides of the transparent protective film (T).

8. A method of producing an elliptically polarizing plate according to claim 7, wherein: the transparent protective film (T), the first birefringent layer, the polarizer, and the second birefringent layer comprise continuous films; and long sides of the transparent protective film (T), the first birefringent layer, the polarizer, and the second birefringent layer are attached together for lamination.

9. A method of producing an elliptically polarizing plate according to claim 7 or 8, wherein the step of forming a first birefringent layer comprises the steps of: applying an application liquid containing a liquid crystal material; and aligning the applied liquid crystal material through treatment at a temperature at which the liquid crystal material exhibits a liquid crystal phase.

10. A method of producing an elliptically polarizing plate according to claim 9, wherein: the liquid crystal material comprises at least one of a polymerizable monomer and a crosslinking monomer; and the step of aligning the liquid crystal material further comprises

the step of performing at least one of polymerization treatment and crosslinking treatment.

11. A method of producing an elliptically polarizing plate according to claim 10, wherein at least one of the polymerization treatment and the crosslinking treatment is performed by one of heating and photoirradiation.

12. A method of producing an elliptically polarizing plate according to any one of claims 7 to 11, wherein the step of laminating a second birefringent layer comprises the steps of: applying an application liquid containing a liquid crystal material and a chiral agent to a substrate; forming a second birefringent layer on the substrate by subjecting the application liquid to treatment at a temperature at which the liquid crystal material exhibits a liquid crystal phase; and transferring the second birefringent layer formed on the substrate to the surface of the first birefringent layer.

13. A method of producing an elliptically polarizing plate according to claim 12, wherein the application liquid contains the chiral agent in a ratio of 0.03 to 0.11 part by weight with respect to 100 parts by weight of the liquid crystal material.

14. A method of producing an elliptically polarizing plate

according to claim 12 or 13, wherein the substrate comprises a polyethylene terephthalate film obtained through stretching treatment and recrystallization treatment.

15. A method of producing an elliptically polarizing plate according to any one of claims 12 to 14, wherein the substrate is used for the step of applying an application liquid without being subjected to alignment treatment on its surface.

16. An image display apparatus comprising the elliptically polarizing plate according to any one of claims 1 to 6.